



Comparing and Reconciling Canadian Census Boundaries through Time

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Since the 1851 census, Canada's census boundaries have continued to evolve. However, in order to perform longitudinal data analysis with any consistency, it is necessary to reconcile this temporal mismatch. To the author's knowledge, few studies in the historical GIS (HGIS) literature have put forth a systematic framework in the form of a computer script to investigate changes in these or other similar type polygon boundaries from one year to the next. This is an important concept in the HGIS field because understanding how the polygon boundaries have either remained constant or evolved through time between censuses is a necessary step in assessing the longitudinal changes in demographic trends over time for a particular location. In this presentation, an R workflow will be presented to compare census subdivision polygons between the 1996 and 2001 censuses. This pairing was selected because there were a number of municipal amalgamations in Ontario at this time as reflected in the census subdivision boundaries. The results of this comparison are presented as maps to demonstrate the changes in the polygons. It is anticipated that the census polygon boundary reconciliation methodology can be applied to other similar types of polygon boundary changes over time.